Balanced Audio Technology

VK-33

WARRANTY REGISTRATION FORM

Unit Serial Number:

_____

Customer Name:

_____

Address:

_____

_____

Date of Purchase:

_____

Purchased From:

Dealer Name:

_____

Address:

_____

_____

IMPORTANT NOTE:

In order to receive the full five year product warranty, please mail this completed form together with a copy of your sales receipt to Balanced Audio Technology at the address below, within **thirty days** of purchase.

Failure to do so will result in the product being warrantied for **one year** from the date of manufacture.

1300 First Stat Blvd. Suite A Wilmington DE 19804 Tel: 302-999-8855 Fax: 302-999-8818

Balanced Audio Technology

VK-33
Vacuum Tube
Balanced Stereo Preamplifier

Owner's Manual

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INTRODUCTION

Thank you for your purchase of the Balanced Audio Technology VK-33 preamplifier. Please read this owner's manual to obtain the full benefit of the VK-33 in your system. It will provide you with the needed safety information and operating procedures for this exceptional unit.

WARNINGS:

To prevent the possibility of serious injury, electrical shock or fire:

DO NOT operate with the cover removed.

DO NOT expose to rain or moisture.

DO NOT defeat the ground power-plug.

DO NOT replace fuse with anything other than the same type and rating as supplied by the factory.

Package Contents

Included in the box should be the following:

Description	Quantity
VK-33 Preamplifier	1
Power Cord	1
Spare Fuse	1
Torx Wrench (T-15)	1
Spare Top Cover Screws	5
User's Manual	1
VK-R3 Remote Control	(If ordered)

Save all the packaging material in a safe dry area for the unlikely event that you need to return the VK-33 to the factory for service.

PHYSICAL PLACEMENT

It is recommended that you provide at least 6" of free space around the unit for proper ventilation.

Mount the unit on a hard surface with proper ventilation underneath.

Do not stack the VK-33 preamplifier on top of other units, nor vice versa.

CONNECTING THE VK-33 TO YOUR SYSTEM

Balanced Components

Use balanced XLR interconnects. All input and output connectors are clearly marked on the back panel.

Note: The VK-33 XLR connectors are wired as follows:

Pin 1:	common/shield
Pin 2:	positive
Pin 3:	negative

For the VK-33, use the Main 1 XLR Output for connection to your balanced power amplifier. The Output 2 is configured as an RCA connector output.

Single-Ended Components

Single-ended components have RCA connectors. The VK-33 preamplifier is designed to work with mix of single-ended and balanced components connected to its inputs and outputs. If more single ended components need to be connected to the preamplifer, then the XLR inputs or outputs can be used for that in conjunction with RCA/XLR adapters. These adapters are available from an authorized Balanced Audio Technology dealer at a nominal charge.

Two types of adapters are available:

Input Adapters: RCA Female to XLR Male

Output Adapters: RCA Female to XLR Female.

VK-33 FRONT PANEL CONTROLS

STANDBY Button and LED

The Standby button is used to turn the unit ON and OFF and to switch the preamplifier into its Standby mode. The LED indicates the status of the unit's power circuitry and has four state:

LED OFF	Display OFF	Unit is in OFF state
	Display ON	Unit is in ON state
LED Flashing	Unit is going through its Power-ON routine	
LED ON	Unit is in its STANDBY mode	

When the unit is plugged into a power line, it will stay in the OFF state until the Standby button is pushed. The LED will then start blinking and the unit will go through a 50second warm-up sequence. At the end of that sequence it will turn ON.

Pressing the button again will switch the unit into its Standby mode.

The VK-33 can be turned OFF by ***pressing and holding*** the Standby button.

VK-33 Power-On sequence:

When you turn the VK-33 On, it will automatically go through a gentle power-on sequence. This sequence takes 50 seconds, during which time the display and the Standby LED will be flashing, indicating the status of the unit.

1. The number on the display during this time indicates the volume setting. This will usually start at 000. This setting can be changed during this time by using the volume knob or Volume Up/Down buttons on your VK-R3 remote control transmitter. In addition, such functions as Phase, Mono, input selection and Mute can be changed during this time either from front panel or through the remote control.

2. Normally the VK-33 will be *not muted* (Mute LED on the display is OFF) and will begin playing at the end of the 50 second delay. If so desired, the unit can be put in the MUTE mode during this delay interval either by depressing the front panel MUTE switch or by using the MUTE button on the VK-R3 remote control transmitter.

Turning the VK-33 Off:

The unit can be turned OFF by ***pressing and holding*** the Standby button. It will automatically mute.

PHASE button and LED

This button allows the user to invert the absolute polarity of the signal to compensate for some recordings that are made out-of-phase. The LED indicates whether the unit is in its INVERTING or NONINVERTING mode. This function is also accessible via the VK-R3 remote control.

LED OFF	Non Inverting operation
LED ON	Inverting operation

MONO Button and LED

The Mono button allows the user to switch the VK-33 in Mono operation when the two channels are summed together. This may be useful, for example, while listening to old monophonic recordings. This function is also accessible via the VK-R3 remote control.

LED OFF	Stereo operation
LED ON	Mono operation

MUTE Button and LED

The Mute button disables the preamplifier output. It is recommended that the Mute be engaged any time the signal cables are changed or any other system configuration changes are being made. This function is also accessible via the VK-R3 remote control.

LED OFF	Unit in Play mode
LED ON	Output Muted

INPUT selection buttons **1** through **5**

These allow the user to select any of five available inputs to be played. The selected input number together with its name will be indicated on the unit front panel display as well. This function is also accessible via the VK-R3 remote control.

VOLUME Knob

This knob performs different function depending upon the unit's mode of operation. In normal mode it works as volume control knob.

It is also used as a data input device in various Function modes to program the unit. For example, it is used to set the BALANCE adjustment when the VK-33 is

switched into its Balance mode. More on that in the corresponding sections of this manual.

The volume control knob on the VK-33 is linked to a digital encoder and is of a continuously rotating type (there are no stops).

DISPLAY FORMAT:

The VK-33 Vacuum Fluorescent Display (VFD) is capable of showing up to twelve alphanumeric characters. Its format depends on the mode of operation. In the normal PLAY mode the display has the following format:

1. One character indicating the selected input number.

2. Four-character input name. That name is fully programmable (See the programming functions) and can include up to four character from the Latin, Cyrillic or Greek alphabets or digits.

3. Balance adjustment indicator. Characters L or R indicate that the balance is shifted in the corresponding direction. A BLANK character means that the gains of both channels are identical.

4. Volume setting - three digits with the full range of 000 to 140 (See programming section on Maximum Volume Setting)

FUNCTION Button

This button puts the unit in its programming mode. In addition to its normal PLAY mode, there are eight programmable functions in the VK-33:

BALANCE Adjustment

RELATIVE VOLUME setting

PHASE setting

MONO/STEREO setting

MAXIMUM volume setting

FIXED volume setting

DISPLAY (Volume) mode

INPUT NAME assignment

Pressing this button while in PLAY mode will switch the unit into programming mode. Once in the programming mode, pressing the Function button will switch the unit into its NEXT programmable functions. The unit will stay in the programming mode until the exit command is issued. To EXIT the programming mode at any time, ***press and hold*** the Function button for about TWO seconds.

DISPLAY Brightness Function

Changing the Display Brightness: The VK-33 display can be dimmed or turned completely OFF by simply pressing the DISPLAY button on your VK-R3 remote control transmitter.

Each press will reduce the brightness of display and LED indicators in steps from full ON to OFF, and then one press back to full ON. The LED indicators will dim but never turn completely OFF. With the display OFF, issuing any remote control command that would normally require a display change (i.e.: Volume, Input selection, Fade) will automatically turn the display back ON.

MUTE Function:

The VK-33 has two mute modes: manual and automatic. The blue LED above the Mute button goes ON when the unit is in MUTE state. To MUTE the VK-33, depress the MUTE button located on the right side of the front panel. Depressing this button again will return the unit to its normal operation and turn the mute LED off.

When the unit is powered up it automatically self-mutes until the proper operating points of the circuitry are reached. It will then automatically go into Play mode, provided the Mute function was not activated (the blue Mute LED is Off).

Turning the VK-33 OFF even for short time, will make the unit reset its power sequencing circuit and mute its output. *It will then require 50 seconds for the unit to become operational again.*

VK-33 PROGRAMABLE FUNCTIONS

The VK-33 programming functions allow the user to optimize the unit configuration for any particular system set up. The flexible programming facility defines each signal input with a group of user-selectable parameters that are then stored in the unit's memory. Every time a particular input is selected, its unique combination of parameters is loaded into the operating memory. Programming is easy and is accomplished through using just two front panel controls -: the ***Function*** button and ***Volume*** knob, or corresponding remote control buttons (Function and Volume Up/Down buttons).

Every unit comes from the factory with a default set of parameters stored in its memory. This set of parameters is usable for many applications. The default set includes the following parameters:

BALANCE	ZERO
RELATIVE VOLUME	ZERO
PHASE	Non-Inverting
MONO/STEREO	STEREO
MAXIMUM VOLUME	140
FIXED GAIN	OFF
DISPLAY	COUNTS
INPUT NAMES	1 TAPE 2 TUN 3 CD1 4 AUX1 5 AUX2 or PH1 if the phono card is installed

The user may at any time, configure the unit to a particular set of system requirements. For example, input names can be changed to reflect a given system's source configuration.

Parameter Definitions:

Every input of the VK-33 is defined with the following set of parameters.

1. Input name (Examples include CD1, DVD1, PH-1, VKD5, or any other combination of up to four characters including the Latin, Cyrillic and Greek alphabet as well as digits)
2. Balance adjustment – gain shifted Left or Right.
3. Volume offset relative to any other input (to compensate for gross differences in various sources levels)
4. Phase: Inverting, Non-inverting or Last configuration
5. Stereo, Mono or Last configuration
6. Maximum allowable volume setting for a particular input. This is a convenient safety feature in some instances.
7. Display mode. This allows the user to switch the volume display to operate in any of the three modes: relative Counts, DBU (Decibels referenced to Unity gain) or DBM (Decibels referenced to Maximum gain).
8. Fixed volume mode: this allows any input to be set with a preferred fixed volume setting, and is usable, for example, in Audio/Video installations.

With this flexibility it is possible, for example, to set the CD input to be Stereo and Non-Inverting, while the Phono input would be Mono and Inverting.

PROGRAMMING THE VK-33

NOTE: It is important to note here that all the functions described below are accessible either through the front panel controls or via the VK-R3 remote control. Therefore, functions like BALANCE, PHASE, MONO, etc. all can be performed by using the Function button on the remote control in conjunction with the Volume Up/Down buttons.

BALANCE Adjustment.

Pressing the Function button once will invoke the Balance adjustment mode. When in this mode, turn the volume control knob (or press the Volume Up/Down buttons on the VK-R3 remote control) to set the balance to the desired position. An L or R character will appear indicating that the balance is now shifted in the corresponding direction.

Exiting the programming mode by ***pressing and holding the Function button*** will store this adjustment for the selected input.

The BALANCE adjustment for each selected input is also stored when switching to another input while still in the BALANCE programming mode.

RELATIVE Volume adjustment.

It is quite common to have sources with very different output levels connected to a preamplifier. In this case, switching between different inputs is usually accomplished by a large change in volume. The VK-33 allows the user to avoid this inconvenience by setting volume offsets between different inputs (using ANY input as a reference).

To program this feature:

1. Select any input that you would like to use as a reference. Play music at the level you find comfortable.
2. Press the Function button twice. The display will read: VOL 000
3. Switch to a different input. Adjust the volume while playing the music to the level that is comparable to the reference input level. The display will indicate the volume offset number. That number can be either positive or negative, depending upon whether the new selected input is stronger or weaker than the reference input.
4. Exit the programming mode by ***pressing and holding the Function button*** or by switching to a different input.

Any input volume offset can be programmed at ANY time with respect to ANY other input.

EXAMPLE:

The CD1 input is used as the reference. Let's presume that the PH1 input (the weaker source) is then programmed to play at 20 counts higher. Its volume offset will then read 20.

The user can later select the PH1 input and using it as the reference, program the AUX1 input to be 10 counts lower than the PH1 input. Effectively, the volume offset from the CD1 input to the AUX1 will now become 10.

The user then can at any time verify his volume offset programming by switching the unit in its VOLUME mode (by pressing the Function button twice) and then selecting the inputs 3, 4 and 5. The volume offset numbers for these inputs should then read 0, 10 and 20 respectfully. That means that the AUX1 source will be played at 10 counts above the CD1 input and the PH1 input at 20 counts above the CD1 input.

Alternatively, the volume offset number can be entered directly, based on your judgement of volume difference between the two sources. To do that, select the input, enter the VOLUME programming mode by pressing the Function button twice, and use the volume knob to set the volume offset number that you deem desirable. Then exit the programming mode by ***pressing and holding the Function Button***.

NOTE: A negative number for the selected input indicates that its gain will be set lower than the gain of the reference input.

PHASE programming.

Select the desired input.

Press the Function button three times. The display will read: PHASE NINV.

Use the volume knob to set the condition to NINV, INV or LAST.

Exit the programming mode by ***pressing and holding the Function button***.

NOTE: In the LAST mode, the state of the PHASE switch will be the same as used the last time for that particular input.

MONO/STEREO programming.

Select the desired input.

Press the Function button four times. The display will read: STEREO

Use the volume knob to set the condition to STEREO, MONO or LAST.

Exit the programming mode by ***pressing and holding the Function button***.

NOTE: In the LAST mode, the state of the Phase switch will be the same as used the last time for that particular input.

MAXIMUM gain programming

It may be desirable to limit the allowable volume setting on a particular input. To do this:

Select the desired input

Enter the MAXIMUM programming mode by pressing the Function button five times.

Set the display to any desired number that will now represent the maximum allowable volume setting for the selected input.

Exit the programming mode by ***pressing and holding the Function button***.

FIXED Gain mode

In some systems (some A/V installations, for example) it is desirable to set a particular input to a fixed gain, that is then becomes unaffected by the volume knob. Most often it is required to set the preamplifier gain to Unity (Gain of 1). The VK-33 allows the user to do so by using its FIXED gain function.

Press the Function button six times.

The display will read: FIX OFF

Enter any desired number for the fixed gain on the selected input (see below).

UNITY gain for the VK-33 preamplifier correspond to the following volume setting:

CNTS display mode	100 Counts
DBU	00.0dB
DBM	-20.0dB

Exit the programming mode by ***pressing and holding the Function button.***

DISPLAY MODE programming

The volume display of the VK-33 can be switched to work in any of the following three modes:

CNTS: Relative volume counts with the range of 000 to 140

DBU: Decibel readings with respect to unity gain (0dB).

DBM: Decibel readings with respect to maximum gain (20dB)

NOTE: To avoid possible confusion, the SAME display mode setting applies to ALL inputs. It is not possible, for example, to set one input to CNTS and another to DBU.

INPUT NAME programming:

The VK-33 allows the user to assign any a custom name to any input. Those names may include up to four characters. The default names for the inputs are as follows:

1 TAPE
2 TUN
3 CD!
4 AUX1
5 AUX2 (It will automatically switch to PH1 if the optional phono card is installed)

Any combination of up to four Latin, Cyrillic, Greek alphabet characters or digits can be used to name the source. The examples may include:

CD-2, DVD1, JOHN, VKD5, MARY, BOB1, etc.

To program the input name, do the following:

Select the desired input

Press the Function button eight times. The first character of the input name will start blinking

Use the volume control knob or the remote control Volume Up/Down buttons to select the desired character. The characters are organized in the following order: the digits, the Latin alphabet, the Cyrillic (Russian) alphabet, the Greek alphabet.

Advance to the next character by pressing the Function button once.

Exit the programming mode by ***pressing and holding the Function button***.

REMOTE CONTROL FUNCTIONS:

The optional VK-R3 remote control that comes with your VK-33 has the following functions:

Volume Up and Volume Down control

Mute function

Fade Down/Fade Up function

Input source selection 1 through 5

Phase switch

Function switch

Display/POWER switch.

The following describes these functions.

Volume Up and Down

These two buttons are programmed with variable speed volume change profiles. The rate of volume change will be slow upon initial pressing of the Volume Up or Down buttons. Holding the button depressed will cause the rate of change to

accelerate, allowing for more flexible control when large changes in volume are required.

Mute

Pressing this button will cause the MUTE function in the VK-33 to toggle between ON and OFF states. The Mute LED on the VK-33 front panel will reflect the status of the Mute circuit.

Fade

Pressing the FADE button on the VK-R3 remote control will cause the volume to smoothly decay over the period of several seconds. This allows for a gradual reduction in volume, as opposed to the instantaneous MUTE function. This can be particularly useful during the presentation or demonstration of your equipment. When the FADE button is pressed, the volume will go down all the way to zero (000 on display, unit in Mute).

Pressing the Fade button again will cause the volume to ramp back up to its initial value.

INPUT SELECT:

Pressing any input selection button on the VK-R3 remote control will switch the VK-33 to that input. All of the set parameters associated with that input will be loaded at this point.

DISPLAY/POWER switch.

The Display/Power button on the VK-R3 remote control provides two functions: turning the VK-33 display ON/OFF and switching the power to the preamplifier.

To control the display:

Pressing the display button will change the display brightness.

Turning the VK-33 OFF

With the display in ON state, press and hold the Display button on the VK-R3 remote control. This function is disabled when the unit's display is turned OFF.

Turning the VK-33 ON

With the VK-33 in its OFF or STANDBY state, simply press the POWER button on the VK-R3 remote control transmitter.

Fuse Protection:

A blown fuse in the VK-33 is an indication of a serious problem. If a replacement fuse fails as well, no further attempts should be undertaken. Please contact the factory for professional service.

The proper fuse ratings are as follows:

For 100-120 VAC Units:	2A 250V Slow Blow
For 200-240 VAC Units:	1.5A 250V Slow Blow

Factory supplied fuses should be only replaced with the same type and rating parts.

Servicing

The Balanced Audio Technology VK-33 should require no service in normal operation. Please direct any further service inquiries to the factory.

Cleaning

To remove dust, occasionally wipe the front and top surfaces of your VK-33 with a damp soft cloth. If fingerprints appear, you may use a mild, non-alkaline soap solution. Do not use abrasive cleaners, as they may damage the fine finish of the unit.

RESETTING THE VK-33:

Under certain conditions it might become desirable to reset the internal microprocessor that controls all the functions of the VK-33.

Doing so will erase ALL user programmed setpoints, and will return the unit to its factory default state.

In order to RESET the VK-33, do the following:

1. Turn the unit OFF.
2. Disconnect the power cord from the back of the unit.
3. Wait about two minutes.

4. Press **AND HOLD** front panel buttons **Input #4** and **Input #5**.
5. **WHILE HOLDING** the buttons, insert the power cord.
6. Power up the unit normally.

Five Year Limited Warranty

Terms and Conditions

1. Limited Warranty

Upon receipt of the attached warranty registration form, Balanced Audio Technology warrants the purchased product to be free from manufacturing, materials, and workmanship defects for **five years** from date of original purchase, excepting vacuum tubes, subject to the following conditions. **Failure to return the enclosed registration form within 30 days from original purchase will result in a warranty period of one year from the date of manufacture.**

2. Vacuum Tubes

Vacuum tubes (including replacements under warranty) are warranted for one year from the date of the original VK-33 purchase.

3. Limited to Original Purchaser

This warranty is for the sole benefit of the original purchaser of the covered product, and may not be transferred to a subsequent purchaser of the product.

4. Conditions and Limitations

This warranty is subject to certain conditions and limitations, as follows. This warranty is void and inapplicable if the product has not been used in accordance with the instructions found elsewhere in this manual, or if it has been misused or abused, damaged by accident or neglect, or in transport once in possession of the purchaser. The warranty is also void if the product has been repaired, modified, or tampered with by anyone other than Balanced Audio Technology or its specifically authorized agents.

5. Remedy

If this product contains a materials, manufacturing, or workmanship defect that cannot be repaired at the dealership where the product was purchased, it must be packed in original packaging and returned to Balanced Audio Technology via insured freight, at the owners expense. If replacement packaging materials are required, they will be supplied by the factory at a nominal charge. **Returned products must be accompanied by a written description of the defect, and a return authorization number (available from the factory via phone or fax).** Upon receipt of defective product, Balanced Audio Technology agrees to repair the product without charge for parts (except vacuum tubes if the unit is more than one year old), or labor. The product will then be returned via prepaid, insured freight, with carrier at the sole determination of Balanced Audio Technology. This constitutes the purchasers sole remedy.

6. Design Changes

Balanced Audio Technology reserves the right to modify its products or change specifications at any time without obligation or liability to previous purchasers.

7. Miscellaneous

Any implied warranties relating to the above product shall be limited to the duration of this warranty. This warranty does not extend to any incidental or consequential costs or damages to the purchaser. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.